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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/994,945	11/28/2001	Gene L. Cangiani	0918.0111C	7284

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EDEL, SHAPIRO & FINNAN, LLC
1901 RESEARCH BOULEVARD
SUITE 400
ROCKVILLE, MD 20850

EXAMINER

BLUDAU, BRANDON S

ART UNIT	PAPER NUMBER
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2132

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/29/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/994,945

Applicant(s)

CANGIANI ET AL.

Examiner

Brandon S. Bludau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,13,14,16,17 and 19-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,13,14,16,17 and 19-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.


Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.


KAMBIZ ZAND
PRIMARY EXAMINER

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This action is in reply to amendment filed 15 September 2006. Claims 1,13,16,19,21,23,24 and 26-29 have been amended. Claims 1,13,14,16,17 and 19-29 are pending.
2. The Examiner acknowledges the amendments to claims 1,13 and 28 and agrees that they overcome the previous 112 rejection.

Response to Arguments

3. Applicant's arguments with respect to claims 1,13,14,16,17 and 19-29 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

4. Claims 1,13-14,16-17 and 19-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clark (US Patent 6965634) and further in view of the Applicant's admission as prior art and further in view of.
5. As per claim 1, Clark discloses a method of transmitting a signal, comprising:
Generating a sequence of pseudorandom noise chips according to a pseudorandom noise code to produce a transmit signal (column 5 lines 19-41); and transmitting the signal.

Clark is directed to a method of synchronizing a receiver when there is a high jamming to signal ratio by using dither codes wherein the time durations are randomly generated based on a secret code. Clark does not however discuss amplifying the

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signals to overcome the jamming. The Examiner points to the Applicant's admission of prior art ([0007] and [0009]) wherein it is discussed a method of counteracting jamming signals by increasing the signal power in short bursts. The Examiner notes that the prior art doesn't discuss wherein the intervals of the bursts are determined based on an encrypted signal. The Examiner finds that it would be obvious to one of ordinary skill in the art to modify Clark to include wherein the randomly generated synchronization codes may be pulsed to a higher power level to reduce the jamming to signal (J/S) ratio in view of the Applicant's admission as prior art. Clark is a similar method of generating secret, randomly generated time intervals to acquire synchronization, thus in view of the prior art, it would be obvious to increase the power of these random pulses to reduce the (J/S) ratio thus facilitating the acquiring of the synchronization signal. Motivation for modifying Clark would be to increase the ability of detecting the secret codes as required in (column 6 lines 23-25) and implied by the Applicant.

6. As per claim 13, Clark discloses a transmitter suitable for transmitting a staggered pulse signal, comprising:

A code generator configured to generate a plurality of pulses according to a code to produce a transmit signal (see fig. 4).

A cryptographic unit configured to generate a cryptographic sequence based on a cryptographic key (see fig. 4 #41 and column 1 line 63-65 wherein it is implied that is is common and known in the art); but does not disclose:

An amplifier connected to the code generator and the cryptographic unit, wherein the amplifier amplifies the transmit signal to a higher level during short bursts of time

that are separated in time, wherein time intervals between successive short bursts are determined based on said cryptographic sequence and represents synchronization information for the transmit signal.

The examiner asserts that amplifiers are well known in the art and are commonly used to increase signal to noise ratio of a transmitted signal. In view of the Applicant's admission as prior art as discussed above, it would be obvious to modify Clark to include the amplifier for amplifying the synchronization signal to a higher power level to reduce the (J/S) ratio thus facilitating the receiver in detecting the correlating code (see above).

7. As per claim 14, Clark discloses the transmitter of claim 13, wherein the code is a pseudorandom noise (PN) code (column 5 lines 19-21).
8. Claim 16 is rejected because it discloses similar subject matter to claim 13.
9. Claim 17 is rejected because it discloses similar subject matter to claim 14.
10. As per claim 19, Clark in view of Applicant's admission as prior art discloses a receiver for receiving a staggered pulse signal having high-power pulses separated by time intervals according to a cryptographic algorithm, the receiver comprising:

A cryptographic unit configured to generate a cryptographic sequence corresponding to the cryptographic algorithm (see fig. 4); and

A code detection unit connected to the cryptographic unit and configured to detect the high-power pulses in the received staggered pulse signal to determine time intervals between bursts of high-power pulses, wherein the code detection unit decodes the time intervals between successive bursts of the high-power pulses to acquire

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synchronization to the staggered pulse signal (see fig. 5 wherein in view of the Applicants admission of prior art, the correlators would detect the higher power pulses to acquire synchronization see also rejection to claim 13 wherein the receiver would be necessary for receiving such transmitted signal).

11. As per claim 20, Clark discloses the receiver of claim 19, wherein the code detection unit comprises:

A correlator configured to correlate the received signal with a local code and to output a correlation signal; and

A decoder unit configured to decode the correlated signal based on the cryptographic sequence generated by the cryptographic unit (see fig. 5).

12. As per claim 21, Clark discloses the receiver of claim 20, wherein the decoder unit comprises a matched filter configured to detect time intervals between the high power pulses of the staggered pulse signal to acquire synchronization to the staggered pulse signal (see fig. 5 wherein the correlators are capable of detecting the time intervals and wherein as is well understood in the art, the matched filter is derived by correlating the unknown signal with the replicated signal).

13. As per claim 22, Clark discloses the receiver of claim 21, wherein the cryptographic unit comprises a cryptographic processing unit and a cryptographic storage unit having stored therein cryptographic keys, wherein the cryptographic processing unit generates the cryptographic sequence based on a key stored in the cryptographic storage unit (column 6 lines 45-47 and column 5 lines 34-35 wherein one

may assume that the receiver also maintains the dither key in a storage unit for generating the reference signal).

14. As per claim 23, Clark discloses the receiver of claim 19, wherein the decoder unit uses a pseudorandom noise (PN) code to decode the correlated signal (is inherent in Clark wherein the transmitted signal is a PN code, it must be decoded using a PN code).

15. Claim 24 is rejected because it discloses similar subject matter to claim 19.

16. Claim 25 is rejected because it discloses similar subject matter to claim 20.

17. Claim 26 is rejected because it discloses similar subject matter to claim 21.

18. Claim 27 is rejected because it discloses similar subject matter to claim 23.

19. Claim 28 is rejected because it discloses similar subject matter to claim 1.

20. Claim 29 is rejected because it discloses similar subject matter to claim 19.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brandon S. Bludau whose telephone number is 571-272-3722. The examiner can normally be reached on Monday -Friday 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on 571-272-3799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BB

Brandon S Bludau
Examiner
Art Unit 2132


KAMBIZ ZANU
PRIMARY EXAMINER